IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Song
Serial No.:	10/770,893
Filed:	February 3, 2004
Group Art Unit:	1742
Examiner:	Morillo, Janell Combs
Title:	CASTABLE HIGH TEMPERATURE ALUMINUM ALLOY

Office of Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

PETITION UNDER 37 CFR 1.181

Dear Director:

This Petition under 37 CFR 1.181 is from an action of an examiner in the prosecution of the application 10/770,893. As will be described below, Petitioner requests entry and consideration of evidence of prior invention with regard to a cited reference in the prosecution. The circumstances of the matter are as follows.

1. In response to a non-final office action mailed on February 15, 2007, Applicant's representative filed a response and Declaration under 1.131 (attached Exhibit 1, hereafter the "first-filed Declaration") with evidence of invention prior to U.S. Publication 2004/0055671 to Olson, et al.
2. On August 8, 2007, the Examiner issued a final office action and denied entry of the first-filed Declaration on the basis of procedural grounds. The grounds for denying entry were that (a) there was no recitation regarding "willful false statements," (b) there was no statement of where the invention occurred, and (c) the Declaration was signed by Applicant's representative, not by the inventor(s).
3. On November 7, 2007 Applicant's representative filed a response to the final office action along with an Inventor Declaration under 1.131 (attached Exhibit 2, hereafter the "second-

filed Declaration"). The second-filed Declaration included the evidence of the first-filed Declaration along with some additional evidence and reconciled the procedural oversights.

4. The Examiner repeated the action of denying entry in an Advisory Action mailed on November 20, 2007 by checking the box of section 8 indicating that the affidavit would not be entered.

Respectfully, Petitioner requests entry of the evidence of prior invention for the following reasons. The second-filed Declaration should be considered to have been timely filed. Although the second-filed Declaration was filed after the final rejection, the second-filed Declaration was essentially a continuation of the first-filed Declaration to reconcile the procedural oversights. The evidence of prior invention was therefore timely filed and should not be excluded for procedural reasons.

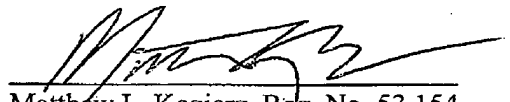
Additionally, substantive evidence to decide the issue on the merits was timely filed with the first-filed Declaration for the examiner to consider. At most, the procedural oversights may have cast doubt on the evidence in the mind of the examiner, but the oversights should not have prevented consideration of the evidence.

Petitioner hereby submits this Petition under 1.181 on the basis of the above circumstances to request entry of Applicant's evidence of prior invention to swear behind the Olson reference.

Applicant believes that no additional fees are necessary, however, the Commissioner is authorized to charge Deposit Account No. **21-0279** in the name of United Technologies Corporation for any additional fees or credit the account for any overpayment.

Respectfully Submitted,

CARLSON, GASKEY & OLDS, P.C.

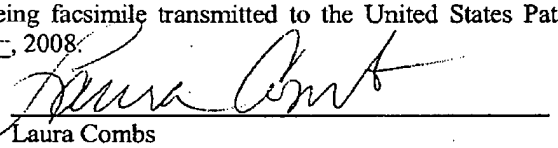


Matthew L. Koziarz, Reg. No. 53,154
400 West Maple Road, Suite 350
Birmingham, Michigan 48009
Telephone: (248) 988-8360
Facsimile: (248) 988-8363

Dated: January 22, 2008

CERTIFICATE OF FACSIMILE

I hereby certify that this response is being facsimile transmitted to the United States Patent and Trademark Office, 571-273-8300 on January 22, 2008.



Laura Combs

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EXHIBIT 1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Song
Serial No.:	10/770,893
Filed:	February 3, 2004
Group Art Unit:	1742
Examiner:	Morillo, Janell Combs
Title:	CASTABLE HIGH TEMPERATURE ALUMINUM ALLOY

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

DECLARATION UNDER CFR 1.131

Dear Sir:

Attached Exhibit A, which will be explained in further detail below, shows that the inventor of the above application invented the subject matter of the application prior to the effective date of U.S. Publication 2004/0055671 to Olson, et al. See MPEP 706.02(b) and 715.

Exhibit A is a copy of a redacted Invention Disclosure, which was a basis of the present application. I have reviewed Exhibit A, and I have determined that at least the portion marked "X" on the sixth (last) page establishes that the inventor conceived the subject matter of the present application prior to the effective date of Olson, et al. Furthermore, I have determined that other portions, such as the portions marked "X" on page 1 and page 2, establish that the assignee and the inventor worked diligently to prepare the invention disclosure from a date before the effective date of the Olson, et al. reference at least up to the effective date of Olson, et al.

Based upon Exhibit A, I believe the inventor conceived the subject matter of the present application prior to the effective date of the Olson, et al. reference, and diligently pursued the subject matter of the present application at least up to the effective date of Olson, et al.

Applicant believes that no additional fees are necessary, however, the Commissioner is authorized to charge Deposit Account No. **21-0279** in the name of United Technologies Corporation for any additional fees or credit the account for any overpayment.

Respectfully Submitted,

CARLSON, GASKEY & OLDS, P.C.

Matthew L. Koziarz, Reg. No. 53,154
400 West Maple Road, Suite 350
Birmingham, Michigan 48009
Telephone: (248) 988-8360
Facsimile: (248) 988-8363

Dated: May 11, 2007

CERTIFICATE OF FACSIMILE

I hereby certify that this response is being facsimile transmitted to the United States Patent and Trademark Office, 571-273-8300 on May 15 2007.

Laura Combs

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EXHIBIT A

ACKNOWLEDGE ☐
SCAN ☐
XFER TO PAB ☐

PATENT ADVISORY BOARD
INVENTION DISCLOSURE SUMMARY

COGNIZANT ADVISORY BOARD: ☒ New Product ☐ License & Repair ☐ PMA

X

DATE TRANSFERRED TO P.A.B. [redacted]

DOCKET NO. [redacted]

TITLE: Al-Gd Alloy for Elevated Temps.

INVENTOR(S) Song

TECHNICAL CATEGORY
NUMBER AND NAME 1 Alloys

USG CONTRACT? [redacted] Agency: ☐ DOE ☐ NASA ☐ USN ☐ USAF ☐ OTHER _____

TARGET DECISION DATE: None

TARGET FILING DATE: None

Product(s):

Explain any rights of non-P&W and/or non-UTC entities (other than U.S.G.)

Remarks to P.A.B.

None

CONFIDENTIAL, ATTORNEY-CLIENT, ATTORNEY WORK PRODUCT. PRIVILEGED.

This form is for the use of the P&W Patent Advisory Board and Counsel, and is not part of the Invention Disclosure

Internal Correspondence

United Technologies

Research Center
Legal Department

[redacted]

TO: Kenneth Baran

RE: Docket Number: [redacted]
Title: *"Al-Gd Alloy for Elevated Temperature Applications"*
Inventors: S. G. Song
Attorney: Ronald Cummings

Enclosed is a copy of the referenced invention disclosure which was disclosed to the Research Center docket on [redacted] and is currently under review to determine the need for patent protection.

In view of its relation to your business, we are offering the disclosure to you for adoption. Should you choose to adopt this invention, please assign your division docket number to the disclosure and notify me so that we may close our records, and transfer the invention to your docket. I can be reached by telephone at [redacted] or by fax at [redacted]

Please contact me with your response no later than [redacted] Craig Walker and John Miller at PW can comment on the patentability of this disclosure; therefore, please include them in your discussions when evaluating this invention. If there is no response by this date, we will assume adoption of this project has been declined.

The associated UTRC row and column managers copied on this memo will be notified of your decision, and may decide to file the case from UTRC, if such action seems appropriate.

Technical questions regarding this disclosure should be directed to the inventors.

Ronald Cummings

Ronald Cummings
Assistant Intellectual Property Counsel
MS 129-06

Enclosure (via interoffice mail)

To Addressee: Important - Return This Sheet By Fax To 860 610-7248

1. Decision to adopt to our unit: ☐ YES I wish to adopt. ☐ NO I *decline to adopt*

2. Reason for decline: _____

Signed and Dated: _____

UTRC INVENTION DISCLOSURE ROUTING SLIP

TO BE COMPLETED BY INVENTOR: Please Enter The Title of the Invention, Names Of Inventor(s), and Names Of Division Program Leader(s) (DPL(s)) for the Business Unit(s) ("BU") listed in question 4(a) of the UTRC Invention Questionnaire.

TITLE:	Al-Gd alloy for elevated temperature applications
INVENTOR(S):	Shihong G. Song

DPL Name: Vince Nardone	BU: P & W	*Initials: VCN	*Date: [redacted]
DPL Name: Michael Winter	BU: HS	*Initials: [signature]	*Date: [redacted]
DPL Name: ____	BU: ____	*Initials: ____	*Date: ____

SHADED AREAS TO BE COMPLETED BY DIVISION PROGRAM LEADER (DPL)

You have been sent the attached original Invention Disclosure and UTRC Invention Questionnaire because the invention may benefit the Business Unit ("BU") for which you are responsible. The purpose of your review at this time is mainly informational. Within two weeks of receipt:

1. *Please review the Invention Disclosure and initial and date in the space provided above*.*
2. *In Item 1.(d) of the UTRC Invention Questionnaire, the inventors of the present invention were asked to list the names of the individuals at the BU who should be contacted to evaluate this invention. If you believe that additional individuals at the BU should be contacted, please list their names and association below.*

Additional Evaluator Name: _____ *Business Unit:* _____

Additional Evaluator Name: _____ *Business Unit:* _____

Additional Evaluator Name: _____ *Business Unit:* _____

3. *If you are the only or last listed DPL, please forward this package to the UTRC Law Department at the address indicated at the bottom of the page. The UTRC Law Department will forward the attached to the relevant BU(s) for adoption. The BU(s) will, in turn, decide whether it is interested in adopting this invention. As a DPL for a BU that may benefit from the invention, if you feel that such BU should adopt the invention, you are encouraged to contact that BU and apprise the appropriate individuals of your views.*

4. *If you are not the only or last listed DPL, please forward this package to the next listed DPL. As a DPL for a BU that may benefit from the invention, if you feel that such BU should adopt the invention, you are encouraged to contact that BU and apprise the appropriate individuals of your views.*

Last listed DPL: Forward The "Routing Slip, Questionnaire and Disclosure" To:

UTRC LAW DEPARTMENT
MS 129-6
ATTENTION: LORETTA N. LAWRENCE

RECEIVED [redacted] LEGAL DEPT.

[redacted]

UNITED TECHNOLOGIES RESEARCH CENTER

Invention Disclosure

[redacted]

Shihong G. Song
Materials and Processing

Al-Gd alloy for Elevated Temperature Applications

Background

Cast and ingot/metallurgy (I/M) high temperature aluminum (HTA) alloys are characterized by the following metallurgic properties:

1) Primary alloy system, binary or ternary, is eutectic,
2) System eutectic composition is high in alloying content such that adequate volume fraction of the second phases (intermetallics) can be attained,
3) Main second phases (intermetallics) are of Al_3X (X is the primary alloying element) form,
4) A coherent or semi-coherent interface between aluminum matrix and the main second phase exists in nucleation and early stage of growth during solidification,
5) The melting point of the intermetallics is significantly higher than the that of aluminum,
6) Alloy eutectic temperature is not significantly lower than the melting point of aluminum,
7) Low solubility of the primary alloying elements in the aluminum matrix.

Three rare earth (RE) elements, namely yttrium, ytterbium, and erbium, have been identified to possess most of these properties. None of these elements, however, are best suited for the purpose in both cost and property terms.

It was recently recognized that gadolinium can serve as a better candidate than the above three for the intended applications, which is elaborated below.

Invention

Gadolinium is a RE element bridging light and heavy RE groups. Its commercial availability is similar to yttrium and is among the top rare elements with relatively high yield on the market. This is also reflected by its current low price (70% of yttrium). Gadolinium has a limited application in nuclear industry because of its large cross section area, but having a low absorption parameter.

Aluminum gadolinium system has the highest RE content at the binary eutectic composition (~5 at%) among Al-RE systems. The binary Al_3Gd intermetallic is the most stable (mp~1125°C) among the Al_3RE group. Al_3Gd is comparable to Al_3Y in terms of crystal structure and can easily form coherent and semi-coherent interface with the aluminum matrix. Other properties of Al-Gd system are similar or better than Al-Y system.

Gadolinium is very attractive to replacing Yb and Er in the cast and I/M HTA materials. It is worth noting that the neglect of the gadolinium in the initial effort of the present program was due to a printing error in the literature that was widely copied.

Inventor's signature	[redacted] Date	Witness #1's signature	[redacted] Date
Shihong G. Song Inventor's printed name	[redacted]	Tom Garosshen Witness #1's printed name	
Inventor's signature	Date	Witness #2's signature	[redacted] Date
Inventor's printed name		Gary D. Linsey Witness #2's printed name	

UTRC INVENTION QUESTIONNAIRE

Title of Invention:	Al-Gd alloy for elevated temperature applications		
Program Name:	UTRC internal	*Division Program Leader(s):*	Vince Nardone
TO BE FILLED OUT BY LEGAL DEPARTMENT ..... DOCKET NUMBER:			

1. Specific development of this invention:
   (a) When did you conceive this invention? Date: [redacted]
   To which project were you charging your time? Project No.: [redacted]
   (b) Has the invention been successfully built or tested? Yes [redacted] No [redacted]
   - If yes, when? _____ How? _____
   - If no, what future effort is planned to build or test this invention? depending on future funding
     - What business unit, government agency, or customer will sponsor the testing? [redacted]

2. UTRC Contract and proposal information (include both government and commercial contracts):
   Was the invention conceived or successfully built or tested in the performance of work under:
   - A UTRC Prime Government Contract or a Commercial Contract/Agreement: Yes [redacted] No [redacted]
     Gov't Contract #: _____ or Commercial Contract/Agmt #: _____
     Gov't Agency or Customer Name: _____
   - A UTRC Subcontract under a non-UTC Prime Government Contract: Yes [redacted] No [redacted]
     Subcontract #: _____ Customer Name: _____
   - An InterDivisional Work Authorization (IDWA): Yes [redacted] No [redacted]
     UTC Business Unit: _____ Business Unit Gov't Contract #: _____

3. Disclosure of invention outside UTC:
   (a) Has the invention been disclosed to others outside UTC, or included in any printed publications, seminars, presentations, trade shows, exhibits? Yes [redacted] No [redacted]
   (b) If yes, disclosed to whom and under what circumstances? [redacted]
   (c) Date of disclosure: [redacted]

4. Business Unit Information:
   (a) UTC Business Units that may be interested in this invention: [redacted]
   (b) Names of individual(s) at each Business Unit who should be contacted to evaluate invention:
   Craig Walker, John Miller
   (c) Current or potential uses/products: Turbine engine components

	Inventor # 1	Inventor # 2	Inventor # 3
Inventor(s) signature:			
Typed Full Legal Name:	Shihong Gary Song		
Business Unit:	UTRC		
Mail Stop:	129-22		
Telephone:	[redacted]		

	Inventor # 4	Inventor # 5	Inventor # 6
Inventor(s) signature:			
Typed Full Legal Name:			
Business Unit:			
Mail Stop:			
Telephone:			

[redacted]

EXHIBIT 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Song
Serial No.:	10/770,893
Filed:	February 3, 2004
Group Art Unit:	1742
Examiner:	Morillo, Janell Combs
Title:	CASTABLE HIGH TEMPERATURE ALUMINUM ALLOY

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

DECLARATION UNDER CFR 1.131

1) I have invented the subject matter set forth in the above-referenced application, CASTABLE HIGH TEMPERATURE ALUMINUM ALLOY.

2) At the time of the invention, I was employed by United Technologies Corporation of Hartford, Connecticut. I invented the subject matter set forth in the above-referenced application in the course of my employment in the United States.

3) As evidenced in attached Exhibits A - C and explained below, Applicant, Applicant's representative, and I diligently worked on the invention and preparation of the subject application between a date before the April 24, 2003 effective date of cited reference U.S. Publication 2004/0055671 to Olson, et al. (hereafter "Olsen") up to the filing of the subject application.

4) Exhibit A is a redacted copy of the Invention Disclosure of the subject application. I prepared the Invention Disclosure on or about June 15, 2001, as evidenced by my signature the 5th page of Exhibit A and the signature of two witnesses who understood the inventive concept at that time. Therefore, the date of conception of the subject application was at least as early as June 15, 2001, which is prior to the April 24, 2003 effective date of Olsen.

5) The 1st page of Exhibit A also indicates that the Invention Disclosure of the subject application was submitted to the internal patent review committee ("P.A.B.") of Applicant on July 24, 2003 to review for patenting in due course and with reasonable diligence in view of Applicant's backlog of work.

6) Exhibit B is a redacted instruction document to draft the subject application that Applicant issued on or about October 23, 2003 to Applicant's representative upon approval of the Invention Disclosure for the drafting of the subject application, which I believe they did with reasonable diligence in view of their likely backlog of work.

7) Exhibit C is a copy of a redacted chain of emails between Applicant, Applicant's representative, and me between the dates of December 11, 2003 and February 2, 2004. As evidenced on the 8th page of Exhibit C, Applicant's representative emailed an attachment of the first draft of the subject application for review on December 11, 2003. As evidenced by the emails on the 1st through 7th pages of Exhibit C, Applicant, Applicant's representative, and I reviewed and revised the subject application in view of our backlog of work at the time between December 11, 2003 and February 2, 2004. The subject application was then filed on February 2, 2004.

8) I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

IN TESTIMONY WHEREOF, I hereunto set my hand at Stratford, in the State of Connecticut, this 7th day of November, 2007.

Shihong Gary Song

STATE OF CONNECTICUT)
)
COUNTY OF Fairfield)

Before me personally appeared said Shihong Gary Song, and acknowledged the foregoing instrument to be his own free act and deed, this 7th day of November, 2007.

Paula Pierog
Notary Public
My Commission Expires: November 30, 2007

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EXHIBIT A

SCAN ☐
XFER TO PAB ☐

PATENT ADVISORY BOARD
INVENTION DISCLOSURE SUMMARY

COGNIZANT ADVISORY BOARD: ☒ New Product ☐ License & Repair ☐ PMA

DATE TRANSFERRED TO P.A.B. 24 JULY 2003

DOCKET NO. R-4554 EH-11083

TITLE: Al-Gd Alloy FOR ELEVATED TEMPS.

INVENTOR(S) SONG

TECHNICAL CATEGORY
NUMBER AND NAME 1 ALLOYS

USG CONTRACT? [redacted] Agency: ☐ DOE ☐ NASA ☐ USN ☐ USAF ☐ OTHER _____

TARGET DECISION DATE: NONE

TARGET FILING DATE: NONE

Product(s):

Explain any rights of non-P&W and/or non-UTC entities (other than U.S.G.)

Remarks to P.A.B.

NONE

CONFIDENTIAL, ATTORNEY-CLIENT, ATTORNEY WORK PRODUCT. PRIVILEGED.

This form is for the use of the P&W Patent Advisory Board and Counsel, and is not part of the Invention Disclosure

Internal Correspondence

United Technologies

Research Center
Legal Department
[redacted]

TO: Kenneth Baran

RE: Docket Number: R-4554
Title: *"Al-Gd Alloy for Elevated Temperature Applications"*
Inventors: S. G. Song
Attorney: Ronald Cummings

Enclosed is a copy of the referenced invention disclosure which was disclosed to the Research Center docket on [redacted] and is currently under review to determine the need for patent protection.

In view of its relation to your business, we are offering the disclosure to you for adoption. Should you choose to adopt this invention, please assign your division docket number to the disclosure and notify me so that we may close our records, and transfer the invention to your docket. I can be reached by telephone at [redacted] or by fax at [redacted]

Please contact me with your response no later than [redacted] Craig Walker and John Miller at PW can comment on the patentability of this disclosure; therefore, please include them in your discussions when evaluating this invention. If there is no response by this date, we will assume adoption of this project has been declined.

The associated UTRC row and column managers copied on this memo will be notified of your decision, and may decide to file the case from UTRC, if such action seems appropriate.

Technical questions regarding this disclosure should be directed to the inventors.

Ronald Cummings

Ronald Cummings
Assistant Intellectual Property Counsel
MS 129-06

Enclosure (via interoffice mail)

To Addressee: Important - Return This Sheet By Fax To 860 610-7248

1. Decision to adopt to our unit: ☐ YES I wish to adopt. ☐ NO I *decline to adopt.*
2. Reason for decline: _____

Signed and Dated: _____

UTRC INVENTION DISCLOSURE ROUTING SLIP

TO BE COMPLETED BY INVENTOR: Please Enter The Title of the Invention, Names Of Inventor(s), and Names Of Division Program Leader(s) (DPL(s)) for the Business Unit(s) ("BU") listed in question 4(a) of the UTRC Invention Questionnaire.

TITLE:	Al-Gd alloy for elevated temperature applications
INVENTOR(S):	Shihong G. Song

DPL Name: Vince Nardone	BU: P & W	*Initials: VCN	*Date: 6/29/01
DPL Name: Michael Winter	BU: HS	*Initials: [illegible]	*Date: 6/29/01
DPL Name: -----	BU: -----	*Initials: _____	*Date: _____

SHADED AREAS TO BE COMPLETED BY DIVISION PROGRAM LEADER (DPL)

You have been sent the attached original Invention Disclosure and UTRC Invention Questionnaire because the invention may benefit the Business Unit ("BU") for which you are responsible. The purpose of your review at this time is mainly informational. Within two weeks of receipt:

1. *Please review the Invention Disclosure and initial and date in the space provided above*.*
2. *In Item 1.(d) of the UTRC Invention Questionnaire, the inventors of the present invention were asked to list the names of the individuals at the BU who should be contacted to evaluate this invention. If you believe that additional individuals at the BU should be contacted, please list their names and association below.*

Additional Evaluator Name: _____ *Business Unit:* _____

Additional Evaluator Name: _____ *Business Unit:* _____

Additional Evaluator Name: _____ *Business Unit:* _____

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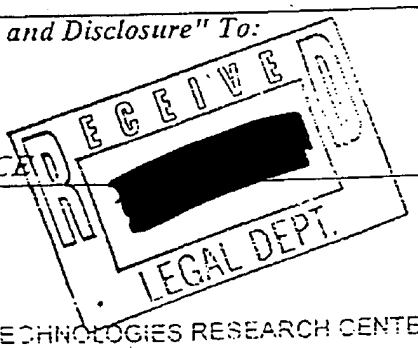
Last listed DPL: Forward The "Routing Slip, Questionnaire and Disclosure" To:

UTRC LAW DEPARTMENT
MS 129-6
ATTENTION: LORETTA N. LAWRENCE



[redacted]

UNITED TECHNOLOGIES RESEARCH CENTER

Invention Disclosure
(6/15/01)
Shihong G. Song
Materials and Processing

Al-Gd alloy for Elevated Temperature Applications

Background

Cast and ingot/metallurgy (I/M) high temperature aluminum (HTA) alloys are characterized by the following metallurgic properties:

1) Primary alloy system, binary or ternary, is eutectic,
2) System eutectic composition is high in alloying content such that adequate volume fraction of the second phases (intermetallics) can be attained,
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Gadolinium is very attractive to replacing Yb and Er in the cast and I/M HTA materials. It is worth noting that the neglect of the gadolinium in the initial effort of the present program was due to a printing error in the literature that was widely copied.

Inventor's signature	6/15/01 Date	Witness #1's signature	6/18/01 Date
Shihong G. Song Inventor's printed name	6/15/01	Tom Garosshen Witness #1's printed name	
Inventor's signature	Date	Witness #2's signature	6/28/01 Date
Inventor's printed name		Gary D. Linsey Witness #2's printed name	

UTC INVENTION QUESTIONNAIRE

Title of Invention:	Al-Gd alloy for el	ed temperature applications	
Program Name:	UTRC internal	*Division Program Leader(s):*	Vince Nardone
TO BE FILLED OUT BY LEGAL DEPARTMENT ..... DOCKET NUMBER:			

1. Specific development of this invention:
   (a) When did you conceive this invention? Date: [redacted]
   To which project were you charging your time? Project No.: 5.304.0001-5.1
   (b) Has the invention been successfully built or tested? Ye[redacted] N[redacted]
   - If yes, when? ------ How? -----
   - If no, what future effort is planned to build or test this invention? depending on future funding
     - What business unit, government agency, or customer will sponsor the testing? [redacted]
2. UTRC Contract and proposal information (include both government and commercial contracts):
   Was the invention conceived or successfully built or tested in the performance of work under:
   - A UTRC Prime Government Contract or a Commercial Contract/Agreement: Ye[redacted] N[redacted]
     Gov't Contract #: _____ or Commercial Contract/Agmt #: _____
     Gov't Agency or Customer Name: _____
   - A UTRC Subcontract under a non-UTC Prime Government Contract: Ye[redacted] N[redacted]
     Subcontract #: _____ Customer Name: _____
   - An InterDivisional Work Authorization (IDWA): Ye[redacted] N[redacted]
     UTC Business Unit: _____ Business Unit Gov't Contract #: _____
3. Disclosure of invention outside UTC:
   (a) Has the invention been disclosed to others outside UTC, or included in any printed publications, seminars, presentations, trade shows, exhibits? Ye[redacted] N[redacted]
   (b) If yes, disclosed to whom and under what circumstances? [redacted]
   (c) Date of disclosure: [redacted]
4. Business Unit Information:
   (a) UTC Business Units that may be interested in this invention: [redacted]
   (b) Names of individual(s) at each Business Unit who should be contacted to evaluate invention:
   Craig Walker, John Miller
   (c) Current or potential uses/products: Turbine engine conponents

	Inventor # 1	Inventor # 2	Inventor # 3
Inventor(s) signature:			
Typed Full Legal Name:	Shihong Gary Song		
Business Unit:	UTRC		
Mail Stop:	129-22		
Telephone:	[redacted]		

	Inventor # 4	Inventor # 5	Inventor # 6
Inventor(s) signature:			
Typed Full Legal Name:			
Business Unit:			
Mail Stop:			
Telephone:			

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EXHIBIT B

Pratt & Whitney
Legal Department - Intellectual Property
Outside Counsel Information Package.

- **PW Docket Number:** EH-11083
- **Lawpack Number:** PWA017565 **Date:** 10/23/2003

- **Government Rights Notice:** [redacted]es [redacted]No
  Agency: [redacted]
  Contract Number: [redacted]

- **(35 USC § 102) Statutory Bar:** [redacted]Yes [redacted]No
  Target Filing Date: [redacted]

- **Rationale for Patenting:**

- **PW Contacts:**

	Name:	*Phone: / Fax:*
Attorney/Agent:	F. Tyler Morrison	[redacted]
Paralegal:	Anna Sardinskas	[redacted]

- **General Instructions:**
  - Provide an e-mail with attachments for application as filed including drawings to the Attorney at: franklyn.morrison@pw.utc.com and to: turleyks@pw.utc.com .
  - When sending the draft application to the inventors for review, also send a copy to the Attorney.
  - Reference both the Docket number and Lawpack number on all invoices.
- **Special Instructions:**

EXHIBIT C

Butchko, Karin H.

From: Morrison, Franklyn T. [donald.kennedy@utc.com]
Sent: Monday, February 02, 2004 7:25 AM
To: Butchko, Karin H.; ROMANIK, GEORGE J HS
Cc: SONG, SHIHONG G UTRC; CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Redacted

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Thursday, January 29, 2004 4:56 PM
To: Romanik, George J. HS
Cc: SONG, SHIHONG G UTRC; MORRISON, FRANKLYN T PW ; CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Gary has approved the application for filing. Please let me know if you have any additional comments. Thanks,

Karin H. Butchko
Carlson, Gaskey & Olds, P.C.
400 W. Maple Rd., Ste. 350
Birmingham, MI 48009
(248) 988-8688 Direct Dial
(248) 988-8360 Main
(248) 988-8363 Fax
Email: kbutchko@carlsongaskeyolds.com

-----Original Message-----
From: Romanik, George J. HS [mailto:george.romanik@hs.utc.com]
Sent: Tuesday, January 27, 2004 10:50 AM
To: Butchko, Karin H.
Cc: SONG, SHIHONG G UTRC; MORRISON, FRANKLYN T PW ; CUMMINGS, RONALD G UTRC
Subject: FW: patent application for your reference EH-11083 entitled

"High temperature aluminum gadolinium alloy"

Karin,

Please see the attachment for several comment I had. I think I've either explained them in the text or they are self-explanatory. Let me know if you
have any questions.

George J. Romanik
Intellectual Property Counsel
Hamilton Sundstrand Legal Department

Voice: 860.654.3144 (t/n 433.3144)
E-fax: 860.660.7588
Fax: 860.654.2614 (t/n 433.2614)
E-mail: george.romanik@hs.utc.com

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Monday, January 26, 2004 4:29 PM
To: Song, Shihong G. UTRC; Morrison, Franklyn T.
Cc: ROMANIK, GEORGE J HS ; Cummings, Ronald G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Attached please find a revised draft of the patent application.

Karin H. Butchko
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-----Original Message-----
From: Song, Shihong G. UTRC [mailto:SongSG@utrc.utc.com]
Sent: Monday, January 26, 2004 2:59 PM
To: 'Morrison, Franklyn T.'
Cc: ROMANIK, GEORGE J HS ; Cummings, Ronald G UTRC; Butchko, Karin H.
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Thanks Tyler. Some additional comments included.

Shihong Gary Song

****
United Technologies Research Center
411 Silver lane, MS129-22
East Hartford, 06108
(860) 610-7075 (t)
(860) 610-1697 (f)

-----Original Message-----
From: Morrison, Franklyn T. [mailto:franklyn.morrison@pw.utc.com]
Sent: Friday, January 23, 2004 11:50 AM
To: ROMANIK, GEORGE J HS ; CUMMINGS, RONALD G UTRC; SONG, SHIHONG G UTRC
Subject: FW: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Redacted

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Thursday, January 22, 2004 2:43 PM
To: Romanik, George J. HS; Morrison, Franklyn T.; songsg@utrc.utc.com
Cc: CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Redacted

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(248) 988-8360 Main
(248) 988-8363 Fax
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-----Original Message-----
From: Romanik, George J. HS [mailto:george.romanik@hs.utc.com]
Sent: Thursday, January 15, 2004 5:22 PM
To: Butchko, Karin H.; Morrison, Franklyn T.
Cc: CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

[redacted]

George J. Romanik
Intellectual Property Counsel
Hamilton Sundstrand Legal Department

Voice: 860.654.3144 (t/n 433.3144)
E-fax: 860.660.7588
Fax: 860.654.2614 (t/n 433.2614)
E-mail: george.romanik@hs.utc.com

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Thursday, January 15, 2004 5:12 PM
To: Romanik, George J. HS; Morrison, Franklyn T.
Cc: CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

[redacted]

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(248) 988-8363 Fax
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-----Original Message-----
From: Romanik, George J. HS [mailto:george.romanik@hs.utc.com]
Sent: Thursday, January 15, 2004 4:15 PM
To: 'Morrison, Franklyn T.'; Butchko, Karin H.
Cc: CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

George J. Romanik
Intellectual Property Counsel
Hamilton Sundstrand Legal Department

Voice: 860.654.3144 (t/n 433.3144)
E-fax: 860.660.7588
Fax: 860.654.2614 (t/n 433.2614)
E-mail: george.romanik@hs.utc.com

-----Original Message-----
From: Morrison, Franklyn T. [mailto:franklyn.morrison@pw.utc.com]
Sent: Thursday, January 15, 2004 3:34 PM
To: 'Butchko, Karin H.'; ROMANIK, GEORGE J HS
Cc: CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

[redacted]

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Thursday, January 15, 2004 3:31 PM
To: Romanik, George J. HS; Morrison, Franklyn T.
Cc: CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

-----Original Message-----
From: Romanik, George J. HS [mailto:george.romanik@hs.utc.com]
Sent: Tuesday, December 16, 2003 1:16 PM
To: 'Morrison, Franklyn T.'; Butchko, Karin H.
Cc: CUMMINGS, RONALD G UTRC; Gaskey, David
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Redacted

George J. Romanik
Intellectual Property Counsel
Hamilton Sundstrand Legal Department

Voice: 860.654.3144 (t/n 433.3144)
E-fax: 860.660.7588
Fax: 860.654.2614 (t/n 433.2614)
E-mail: george.romanik@hs.utc.com

-----Original Message-----
From: Morrison, Franklyn T. [mailto:franklyn.morrison@pw.utc.com]
Sent: Tuesday, December 16, 2003 11:57 AM
To: 'Butchko, Karin H.'
Cc: ROMANIK, GEORGE J HS ; CUMMINGS, RONALD G UTRC
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Redacted

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Tuesday, December 16, 2003 11:19 AM
To: Morrison, Franklyn T.
Subject: RE: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Redacted

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(248) 988-8360 Main
(248) 988-8363 Fax
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-----Original Message-----
From: Morrison, Franklyn T. [mailto:franklyn.morrison@pw.utc.com]
Sent: Monday, December 15, 2003 4:13 PM
To: Butchko, Karin H.
Subject: FW: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

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Redacted

-----Original Message-----
From: Butchko, Karin H. [mailto:kbutchko@cgolaw.com]
Sent: Thursday, December 11, 2003 10:16 AM
To: morrisft@pweh.com
Subject: patent application for your reference EH-11083 entitled "High temperature aluminum gadolinium alloy"

Tyler,
Attached please find a draft of the above-referenced patent application. I
am currently revising the application to include the disclosure of another
aluminum-rare earth element alloy. I will forward a revised draft with this
information shortly. Thank you.

<<022application.doc>> <<Informal Drawings.pdf>>

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